

AMENDMENT TO THE CLAIMS

1. (Previously Presented) A test assembly for testing a printed circuit board comprising:

a fixture including a first interface having a plurality of interface terminals adapted to electrically couple the fixture to a test device and a second interface having a plurality of interface terminals adapted to electrically couple the fixture to terminals on the printed circuit board and the plurality of interface terminals on the second interface being electrically coupled to the plurality of interface terminals on the first interface;

an actuator operably coupled to the fixture to install the fixture relative to the test device and the actuator movably supporting the fixture between a first position to support the fixture at a position spaced from the test device and a second position to provide an electrical connection between the plurality of interface terminals of the first interface of the fixture and the test device and including an actuator to bias the printed circuit board relative to the plurality of interface terminals of the second interface to provide an electrical connection to the test device; and

a clamp assembly adapted to selectively secure the fixture relative to the actuator operably coupled to the fixture to install the fixture.

2. (Previously Presented) The test assembly of claim 1 and further comprising a rotator coupled to the clamp assembly to rotate the clamp assembly between a first orientation to load the

fixture and a second orientation to clamp the fixture for installation.

3. (Previously Presented) The test assembly of claim 1 wherein the clamp assembly includes first and second clamp members having opposed clamp surfaces to secure the fixture therebetween and one of said clamp members forms a support member to load the test fixture for installation.

4. (Previously Presented) The test assembly of claim 3 wherein the fixture includes an elongated clamp opening having an elongated dimension and a narrower dimension and the other of said clamp members includes a head having an elongated dimension and a narrower dimension and the head is sized for insertion through the clamp opening in a first orientation with the elongated dimension of the head aligned with the elongated dimension of the clamp opening and the other of said clamp members being rotatable to a second orientation to align the elongated dimension of the head with the narrower dimension of the clamp opening to clamp the fixture relative to the one of said clamp members which forms the support member for installation.

5. (Currently Amended) The test assembly of claim 1 and further including a cover including interface terminals electrically coupleable to the circuit board terminals for testing and the actuator ~~to~~ biasing the printed circuit board relative to the plurality of interface terminals of the second interface to provide an electrical connection to the cover.

6. (Previously Presented) The test assembly of claim 1 wherein the fixture includes guide holes for insertion of guide pins on the test device or a cover.

7. (Previously Presented) The test assembly of claim 1 wherein the first interface is orientated in a first direction and the second interface is orientated in a second opposed direction from the first direction.

8. (Previously Presented) The test assembly of claim 1 wherein the actuator operably coupled to the fixture includes a piston-cylinder actuator.

9. (Previously Presented) The test assembly of claim 8 wherein the piston-cylinder actuator is pneumatically operated.

10. (Previously Presented) The test assembly of claim 1 and comprising at least four clamp assemblies coupleable to at least four clamp openings on the fixture.

11. (Currently Amended) A test assembly comprising:
a fixture including a first interface having a plurality of interface terminals adapted to electrically ~~to~~ couple the fixture to a test engine and a second interface having a plurality of interface terminals adapted to electrically couple the fixture to terminals on a printed circuit board and the plurality of interface terminals on the first interface being electrically connected to the plurality of interface terminals on the second interface; and
means for removably installing the fixture to the test engine to provide an electrical connection between the interface terminals on the first interface and the test engine and a printed circuit board under test.

12. (Currently Amended) The test assembly of claim 11 wherein

the means for removably installing includes a clamp assembly including opposed clamp members, one of said clamp members forming a support surface to load the fixture for installation and the other of said clamp members being positionable between a load position and a clamped position to clamp the fixture to at the test engine.

13. (Currently Amended) The test assembly of claim 12 wherein the clamp assembly is coupled to an actuator movable between a first position spaced from the test engine to load the fixture on the support surface and a second position proximate to the test engine to provide an the electrical connection between the interface terminal on the fixture and the test engine to install the fixture.

14. (Previously Presented) A method for testing circuit boards comprising steps of:

removably clamping a fixture having a first interface having a plurality of interface terminals and a second interface having a plurality of interface terminals electrically coupled to the plurality of interface terminals on the first interface to an actuator assembly;

operating the actuator assembly to move the fixture from a first position spaced from a test device to a second position so that the terminals of the first interface electrically interface with terminals on the test device to install the fixture for use; and

biasing at least one circuit board relative to the plurality of interface terminals of the second interface to test the at least one circuit board.

15. (Previously Presented) The method of claim 14 wherein the

step of removably clamping the fixture comprising:

loading the fixture onto a support surface coupled to the actuator assembly and clamping the fixture relative to the support surface.

16. (Currently Amended) The method of claim ~~14~~15 wherein the step of removably clamping the fixture relative to the support surface comprises rotating a clamp member from a first orientation to a second orientation.

17. (Previously Presented) The method of claim 14 and further comprising the steps of:

sequentially biasing a plurality of circuit boards relative to the plurality of interface terminals on the second interface; and
sequentially testing operation of the plurality of circuit boards.

18. (Original) The method of claim 14 and further comprising the steps of:

operating the actuator assembly to retract the fixture from the test device;
unclamping the fixture from the actuator assembly; and
removing the fixture and installing a different fixture relative to the test device.

19. (Previously Presented) The method of claim 14 and further comprising the steps of:

positioning the at least one circuit board between the fixture and a cover having interface terminals; and
biasing the cover relative to the at least one circuit board to electrically connect the circuit board to the plurality of interface terminals on the fixture and the

cover.

20. (Previously Presented) A test assembly comprising:
a test circuit adapted to electrically test a circuit board; and
a clamp assembly operable to removably couple a fixture to an actuator assembly and the actuator assembly operable to install the fixture relative to the test circuit through an electrical interface between the test circuit and a plurality of interface terminals on a first interface of the fixture to provide an electrical interface for the circuit board to the test circuit through a plurality of interface terminals on a second interface of the fixture.

21. (Previously Presented) The test assembly of claim 20 wherein the test device includes the fixture movable between a retracted position and an installed position relative to the test circuit.

22. (Previously Presented) The test assembly of claim 21 wherein the test circuit comprises a base and a cover to provide an electrical interface relative to opposed sides of the circuit board through the fixture installed relative to the base and through interface terminals on the cover.